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L18: Entry 2 of 3

File: USPT

May 13, 1997

DOCUMENT-IDENTIFIER: US 5629045 A

TITLE: Biodegradable nosiogenic agents for control of non-vertebrate pests

BSPR:

Any materials which binds to the capsaicin receptor and triggers influx of ions, principally Ca^{2+} and Na, into the cell so as to elicit a nosiogenic response may also be used for barnacle retardation, wood preservation, etc. Other similar chemical materials may be used, including Gingerol, Piperi, Eugenol, Resiniferatoxin or Leptogorgia virgulata. These compounds may also be made synthetically with or without modification and/or derivatives. (See diagrams) ##STR1##

BSPR:

Other inhibitors of the "sitting down" action of barnacles are antibiotic calcium ionophores, calimycin, beauvericin, plant terpene forskolin, ecdysone, carbonic anhydrase inhibitors such as acetazolamide and polyamine formation inhibitors such as difluoromethylornithine.

BSPR:

Further, the plant terpene forskolin mimics the action of the capsaicin. This material is derived from the roots of Coleus forskohlii, a plant terpene of molecular weight 410 which is soluble in ethanol while being essentially insoluble in water. It is an ideal additive to the paint for inhibiting barnacle growth.

DEPR:

Dosages of other agents binding to the capsaicin receptor could be decreased in accordance with their binding constants. Thus, resiniferatoxin, which binds to the receptor with about 100 times the affinity of capsaicin, could be used as approximately 100 times less dosages than was used in the above example. Conversely, agents such as eugenol, which have less binding capacity than capsaicin, would require an increased dosage.

CLPR:

3. An antifouling additive comprising a composition containing an antifouling amount of an antifouling agent selected from the group consisting of: resiniferatoxin, gingerol, vanilly octanamide, vanilly pelargonamide, vanilly capramide, vanilly undecanamide, vanilly undecenamide, forskolin and difluoromethylornithine.

CLPV:

an antifouling amount of an antifouling additive selected from the group consisting of: resiniferatoxin, gingerol, vanilly octanamide, vanilly pelargonamida, vanilly capramide, vanilly undecanamide, vanilly undecenamide, forskolin, difluoromethylornithine and mixtures thereof.

CLPV:

applying an antifouling coating composition of a surface of wood or water immersible structure, said antifouling coating composition comprising a coating base and an antifouling amount of an antifoculing additive selected from the group consisting of: resiniferatoxin, gingerol, vanilly octanamide, vanilly pelargonamide, vanilly capramide, vanilly undecanamide, vanilly undecenamide, forskolin, difluoromethylornithine and mixtures thereof.